

ABC, Inc.



Sam Antar
Vice President
Law & Regulation
Legal

DOCKET FILE COPY ORIGINAL

December 1, 1997

RECEIVED

DEC - 1 1997

FEDERAL COMMUNICATIONS COMMISSION
OFFICE OF THE SECRETARY

Hand Deliver

Ms. Magalie Roman Salas
Secretary
Federal Communications Commission
1919 M Street, N.W., Room 222
Washington, DC 20554

Dear Ms. Salas:

On behalf of ABC, Inc., transmitted herewith for filing with the Commission are an original and four copies of its Comments in ET Docket No. 97-214.

If there are any questions in connection with the foregoing, please contact the undersigned.

Very truly yours,

Sam Antar

SA/ak
Enclosures

024

DOCKET FILE COPY ORIGINAL

Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, DC 20554

RECEIVED

DEC -1 1997

FEDERAL COMMUNICATIONS COMMISSION
OFFICE OF THE SECRETARY

In the Matter of)
)
Amendment of Part 2 of the) ET Docket No. 97-214
Commission's Rules to Allocate the)
455-456 MHz, and 459-460 MHz bands)
to the Mobile-Satellite Service)

Comments of ABC, Inc.

Sam Antar
Vice President, Law & Regulation

ABC, Inc.
77 West 66th Street
New York, New York 10023

Counsel for ABC, Inc.

December 1, 1997

Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, DC 20554

In the Matter of)
)
Amendment of Part 2 of the) ET Docket No. 97-214
Commission's Rules to Allocate the)
455-456 MHz, and 459-460 MHz bands)
to the Mobile-Satellite Service)

To: The Commission

Comments of ABC, Inc. on
Notice of Proposed Rule Making ("NPRM")

I. Introduction and Summary

By its NPRM in this proceeding, the Commission proposes to amend Part 2 of the Commission's Rules to allocate the 455-456 MHz and 459-460 MHz bands to the "Little LEO" satellite service. The 455-456 MHz band is used on a primary basis for Part 74 auxiliary broadcast services. The Commission invites comment on whether there is sufficient spectrum sharing capacity in these bands to support the proposed allocation for Little LEOs and on whether there are techniques available that would permit Little LEOs to share this spectrum without causing harmful interference to or constraining the development of incumbent operations. For the reasons explained below, ABC, Inc. believes that 1) the requisite spectrum sharing capacity to support the proposed allocation of the 455-456 MHz band does not exist, and 2) it is not feasible based on

the current state of knowledge to apply engineering techniques to protect broadcast incumbents in this band. Because it is vital that this band continue to be available without harmful interference for the transmission of program material for radio and television broadcasts, ABC opposes the Commission's proposal.

II. The 455-456 MHz Band Plays a Key Role in Radio and Television Broadcasting

The 455-456 MHz band plays a number of key roles in radio and television broadcasting. The use of remote vehicles for news gathering and transmission of other remote origination programming relies upon this band for dispatch instructions and for communications of cues and directions. In radio, the band is used in virtually every market on a daily basis for transmitting program material from the scenes of news events and from traffic helicopters. Entire sporting events and news and entertainment programs that originate from remote sites are transmitted back to radio stations' studios via transmissions in this band. Television stations and networks use the 455-456 MHz band in connection with remote broadcasts for IFB's to cue cameras and talent in setting up camera shots as well as to establish the microwave links which carry the video between the remote transmitter and the station's or network's receive point. It is vitally important to broadcasters and to the listening and viewing public broadcasters serve that these uses continue to be available on an efficient and uninterrupted basis.

III. Spectrum Sharing Capacity to Support the Proposed Allocation Does Not Exist

In paragraph 12 of the NPRM, the Commission notes that there are now more than 25,000 Part 74 auxiliary broadcast transmitters in the United States authorized to use the 455-456 MHz band. In its comments on the NPRM, the Society for Broadcast Engineers ("SBE") presents data which demonstrate that broadcasters' heavy use of these frequencies do not allow for spectrum sharing with Little LEO operations. The SBE properly challenges the Commission's characterization that broadcasters use this band only intermittently. Even when a channel is not in current use, it must be available on an immediate basis when a broadcaster seeks to commence use for the purpose of transmitting news and traffic information. For example, many all-news radio stations provide these services up to six times an hour at intervals of only a few minutes apart. The band is also used for long-form originations from sports sites and other venues where events of local interest are taking place. In the case of major breaking stories such as weather emergencies, blocs of continuous coverage may last for hours, days or even longer.

IV. Based on the Current State of Knowledge, It Is Not Feasible to Apply Engineering Techniques to Protect Broadcast Incumbents

The Commission points to two factors which it says may allow Little LEO operations without hindering incumbent use -- the short duration of Little LEO transmissions (450 milliseconds, which is approximately one-half second) and the availability of engineering

techniques such as the Dynamic Channel Activity Assignment System ("DCAAS") which theoretically would scan the band for available channels.

The Engineering Statement which is Appendix 1 hereto outlines four (among many possible) scenarios in which broadcast incumbents would be subject to harmful interference (or, alternatively, Little LEO system integrity may be put in jeopardy) even taking into account the short duration factor and the application of the DCAAS technique. In sum, under the current state of knowledge, on the record before the Commission, there is an inadequate basis to believe that these techniques will work.

The first of the scenarios covered in the Engineering Statement describes what would occur if a radio broadcaster turned on its remote transmitter at the time the Little LEO was using the same frequency. Instead of hearing the broadcast transmission, such as a traffic report which the listening audience had been told is immediately to follow, the audience would hear one-half second of audible "blatt." This could happen any time a radio broadcaster attempted a program transmission.

The second and third of the scenarios described in the Engineering Statement are examples of common broadcast incumbent uses of the 455-456 MHz band -- itinerant low-power operations coordinated with local wide-area operations, and the use of voting receiver and repeater systems -- where we believe the use of the DCAAS technique is likely to fail and broadcast incumbents would be subject to harmful interference because Little LEO systems would be


unable to hear the broadcaster's low power transmissions.

In the fourth scenario described in the Engineering Statement, where a number of broadcasters are engaged in coordinated bandwidth variation, Little LEOs using the DCAAS protocol would be unlikely to recognize what bandwidth is in use and thus would be unable to avoid interference.

V. Conclusion

The NPRM, in paragraph 15, recognizes that the spectrum sharing issues in the 455-456 MHz band are complex and will require a separate proceeding to craft appropriate service and licensing rules. Yet, in a classic example of "putting the cart before the horse," the Commission proposes to proceed with the proposed allocation before conducting the additional studies that will be necessary to determine whether spectrum sharing is feasible without causing harmful interference to broadcast incumbents. We believe that the more appropriate course would be to defer any decision on allocation unless and until the Commission is able to determine with a high degree of confidence that sharing is technically feasible. In our view, the incumbent operations that are at stake, which support the broadcast of news and programming the public relies on on a daily basis, require this more prudent and cautious approach.

Respectfully submitted,

By: _____

Sam Antar
Vice President, Law & Regulation

ABC, Inc.
77 West 66th Street
New York, New York 10023

Counsel for ABC, Inc.

December 1, 1997

ABC, Inc.



**ENGINEERING STATEMENT OF KENNETH J. BROWN
IN CONNECTION WITH
COMMENTS OF ABC, INC.
ALLOCATION OF 455-456 MHZ TO MOBILE SATELLITE SERVICE
ET DOCKET 97-214**

I am Manager of Allocations and Licensing for the ABC Television Network, with offices located in New York City. My education and experience are a matter of record with the Federal Communications Commission.

This statement has been prepared for filing in connection with the Comments of ABC, Inc., in response to the FCC's Notice of Proposed Rule Making (NPRM) regarding reallocation of the 455-456 MHz band to the Mobile Satellite Service.

The NPRM discusses at paragraph 15 sharing protocols such as DCAAS, described at footnote 31, which purports to offer protection to existing services. This appears to require the satellite to revise the available channel list on the order of once every ten seconds based on observations over the last seconds.

This protocol, based on the limited information available, appears to be woefully inadequate and will result in intolerable disruption to the American radio and TV broadcast system. This conclusion is based on analysis of several real-world scenarios.

Scenario 1: the live radio traffic report, common every day in every major market on multiple stations, especially in prime "drive time". The studio announcer says something like "Now let's go to Chopper 97 for a look at the traffic, brought to you by Joe's Auto Parts. Charlie?" The remote transmitter will likely not have been transmitting until the beginning of the cue is heard by the reporter. The studio will begin receiving and retransmitting the remote audio near or at the end of the cue. The remote transmitter will thus not have been operating for ten seconds prior to being broadcast, and will be ripe for disruption by Little LEO. Even a 1/2 second long blatt can be intensely obnoxious to the listening public. Such traffic reports may air on one or more stations in a market as often as every 10 minutes in prime drive times. Further, congestion in RPU bands causes sharing such that the same RPU frequency may be used for traffic reports by different stations, based on scheduled alternation or rotation of available time slots.

Scenario 2: the relatively low power (5 watts or less) operation of a network or other itinerant operator at a specific venue, which has been coordinated to share a frequency with a high-power wide-area local operation. This can often be done to share scarce frequencies, especially at times when either the

ENGINEERING STATEMENT OF KENNETH J. BROWN
COMMENTS -- ET DOCKET 97-214
Page 2

local news operation is on "standby", not expecting activity but ready in case something happens, or the itinerant operation is doing "set up" preparing for an event but not yet subject to the immediacy of "on air" concerns. Due to the scarcity of available frequencies in major markets and the need for several frequencies to produce something like a broadcast of a major sporting event, frequencies are often "loaned" to itinerants by locals with the understanding that the locals will stay off the frequencies during the event except in event of an emergency serious enough that it would likely take precedence over the sporting event to air anyway, such as when the San Francisco Earthquake of October 1989 disrupted the World Series baseball game. Itinerant operators must often accept these conditions knowing that there is a (small) chance of their broadcast being disrupted in order to obtain access to the frequencies we require, which usually include several "director" IFBs running for the entire duration of the event. Such coordination is usually also based upon the itinerant operation using control tones or codes that the local system will not recognize and so will not activate for, and the fact that the local system with higher power can "outshout" the itinerant operation if it is activated. In most circumstances, this works quite well, since the local system does not need to be activated, yet the frequency is both in use and available for higher priority activation. But the low power itinerant overlay operation would either disrupt or be disrupted by Little LEO, depending upon whether or not the satellite system could hear the limited-area terrestrial operation.

Scenario 3: the voting receiver or repeater system. Voting receiver and repeater systems are both used in circumstances when relatively low power (often handheld) radios have to communicate as part of wide-area (regional) communications systems with fixed stations normally far out of reception range of the portable units. The voting system sets up several receivers in advantageous locations around the area of interest. Their received audio signals are relayed by wireline or other fixed link back to a central location, where the voting system robot controller chooses the loudest or best audio of the group. Properly balanced, only the audio from the receiver which best "hears" the portable radio is heard by the base listener. A single powerful fixed transmitter is used to talk back to the portables. The repeater system sets up a sensitive receiver, usually at a mountaintop site with line-of-sight view over surrounding terrain. This receiver is capable of hearing relatively low power transmissions over a wide area due to its commanding location. This receiver is connected to a transmitter on another frequency which, due to its power and commanding location, can be heard by portable and

ENGINEERING STATEMENT OF KENNETH J. BROWN
COMMENTS -- ET DOCKET 97-214
Page 3

disadvantageously-located fixed receivers across the region. In very rough terrain, several repeaters may be used, each with a different activation code, so that a portable radio user may selectively trigger the repeater most likely to hear him, which relays to all interested parties.

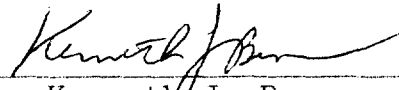
The point about both of these types of systems is that they are designed to receive and relay communications which otherwise would go unheard. It could be anticipated that Little LEO systems would also not hear these transmissions, and hence would disrupt them. Further, while the voting receiver system utilizes a single frequency, the repeater system requires two frequencies with significant frequency separation between them, so the receiver is not deafened by its own associated re-transmitter. These systems are often located at advantageous locations with many other repeater systems, many in other radio services. These joint sites are carefully engineered for the systems to coexist, and most of them require that the broadcast auxiliary systems operate "high in, low out" -- which means that the receiver for the portable transmissions operates in the 455-456 MHz band, subject to disruption from Little LEO, while the powerful re-transmitter operates in the 450-451 MHz band. These operations cannot be reversed without re-engineering all affected systems, covering all sites utilized by numerous systems in various radio services, at immense cost.

Scenario 4: coordinated bandwidth variation to accommodate high-quality remote programs. Wideband radio program channels may be "split" to carry two programs when high audio quality is not demanded, then recombined later in the day to deal with a program needing the extra audio quality. This concept works only based on prior coordination among users. Furthermore, there are certain markets where usage is so high that channels have been sub-divided into central channels used in the central city and offset overlapping channels used in outlying cities and other parts of the market. This works only because of the combination of capture ratio with frequency and geographic separation, and only for those users covering only a portion of the overall market area. How is a Little LEO system to recognize what bandwidth is in use and hence what channels are open for its use, unless it has some way of seeing sideband occupancy, which is even more difficult to sense at a distance than presence of lower-powered carriers? In the likely event that Little LEO systems could only deal with conventional bandwidths and nonoverlapping channels, and this allocation were to proceed, then broadcasters would immediately need additional spectrum allocated to us in major markets to replace the channelization which would be lost to us by the invalidating of our spectrum conservation techniques.

ENGINEERING STATEMENT OF KENNETH J. BROWN
COMMENTS -- ET DOCKET 97-214
Page 4

Based on analysis of just the above few scenarios against the minimal knowledge we have of Little LEO systems, it appears that broadcast auxiliary services would necessarily suffer objectionable, disruptive, prohibitive interference from Little LEO attempting to share our frequency band. Indeed, based upon the disruption to broadcast operations which could occur, this could even constitute a de-facto reallocation due to the disruptions to out-of-studio broadcasts and broadcast productions.

DATED: Nov. 24, 1997


Kenneth J. Brown